



Student Assessment: Genes in Marine Habitats [KEY]

Fill in the blanks below with one or two words that best complete the sentence.

- 1) Sexual reproduction produces offspring that inherit half their genes from each parent.
- 2) One or more genes on the chromosome can determine an inherited trait.
- 3) A fish with very good camouflage would be more likely/better able to escape predators than another fish that is easier to see.
- 4) The offspring or young of a marine species shows physical features that are similar to its parents.
- 5) Many genes make up the important molecule DNA located in the chromosomes of each cell.
- 6) When a keystone species is found in large numbers it is evidence of a healthy marine ecosystem.
- 7) Separating two populations of a single species from one another could result in different physical adaptations over time if the two populations are no longer able to interbreed (sexually reproduce with one another).

Answer the questions below by writing your answers on the lines provided for you.

- 8) Some species of rockfish are not able to reproduce until they are 10 to 12 years old. How could this become a problem for a species? Fish that are slow to produce young that replace older fish (low recruitment rate) are highly vulnerable to over-harvesting by people.
- 9) According to Darwin's theory, if a certain species has a good variety of traits in its gene pool this could in time result in biological evolution or change in that species. Explain his reasoning: Some traits would be better adapted or fit to the environment or habitat. The individuals having those traits would be most likely to survive and pass on their genes for those features.
- 10) Two species of rockfish, the tiny shortbelly rockfish and the large-growing cowcod, are thought to share a common ancestor species that lived long ago. What evidence do we have to support this? Their close relationship has been verified by tests of their DNA (which is very similar).